AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A vehicle state analyzing method, comprising:

a suspension/chassis setting step for setting an optimum alignment state in a suspension/chassis of a vehicle;

an initialize mode measuring step in which a lateral force ~~between a wheel and~~from all wheels to a vehicle body is measured, by using a force sensor for detecting input of force from ~~the~~ each wheel to the vehicle body, when the vehicle, which is set to an optimum alignment state, is run on a substantially flat road surface as reference under a predetermined condition, and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured;

a monitor mode measuring step in which the lateral force is measured, by using the force sensor, when the vehicle ~~thereafter~~, which has run a predetermined distance or for a predetermined time from a time of performing the initialize mode measuring step, is run on a substantially flat road surface, and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured; and

an analyzing step in which a change of the alignment state of the vehicle is analyzed on the basis of a ratio of the deviation obtained at the monitor mode measuring step and the deviation obtained at the initialize mode measuring step.

2. (previously presented): The vehicle state analyzing method of claim 1, wherein the deviation of fluctuation or fluctuation rate of the lateral force is measured during normal running of the vehicle.

3. (cancelled).

4. (currently amended): A vehicle state analyzing system for analyzing state of a vehicle having wheels, comprising;

a force sensor for detecting input of force from a wheel to a vehicle body;

initialize mode memory means in which a lateral force ~~between the wheel and~~from all wheels to the vehicle body is measured, by using the force sensor for detecting input of force from ~~the~~ each wheel to the vehicle body, when the vehicle, which is set to an optimum alignment state, is run during a first period on a substantially flat road surface as reference under a predetermined condition and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored;

monitor mode memory means in which the lateral force is measured, by using the force sensor, when the vehicle ~~thereafter~~, which has run a predetermined distance or for a predetermined time from a time of measuring the lateral force by the initialize mode memory means, is run, during a second period after the first period, on the substantially flat road surface and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored;

analyzing computation means in which a change of the alignment state of the vehicle is analyzed on the basis of a ratio of the deviation stored in the monitor mode memory means and the deviation stored in the initialize mode memory means; and

information output means for outputting at least one of the information stored in the initialize mode memory means, the information stored in the monitor mode memory means, and a result of the analysis obtained by the analyzing computation means.

5. (currently amended): The vehicle state analyzing system of claim 4, wherein the force sensor is provided in the vehicle, and

the initialize mode memory means, the monitor mode memory means, the analyzing computation means, and the information output means are provided outside the vehicle.

6. (cancelled).

7. (previously presented): A vehicle comprising:

a vehicle state analyzing system mounted thereon, the system comprising:

a force sensor for detecting input of force from a wheel to a vehicle body;

initialize mode memory means in which a lateral force between ~~the wheel and the~~ from all wheels to the vehicle body is measured, by using the force sensor for detecting input of the force from ~~the~~ each wheel to the vehicle body, when the vehicle, which is set to an optimum alignment state, is run on a substantially flat road surface as reference

under a predetermined condition and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored;

monitor mode memory means in which the lateral force is measured, by using the force sensor, when the vehicle ~~thereafter~~, which has run a predetermined distance or for a predetermined time from a time of measuring the lateral force by the initialize mode memory means, is run on the substantially flat road surface and deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored

analyzing computation means in which a change of the alignment state of the vehicle is analyzed on the basis of a ratio of the deviation stored in the monitor mode memory means and the deviation stored in the initialize mode memory means; and

information output means for outputting at least one of information stored in the initialize mode memory means, information stored in the monitor mode memory means, and a result of the analysis obtained by the analyzing computation means, is mounted.

8. (previously presented): The vehicle of claim 7 further comprising

display means for displaying the state of the vehicle obtained by the analyzing computation means.

9. (previously presented): The vehicle of claim 7 further comprising

adjustment means for automatically adjusting alignment of a suspension on the basis of the state of the vehicle analyzed by the analyzing computation means.

10. (previously presented): A vehicle state management system, comprising:

a vehicle state analyzing system for analyzing state of a vehicle having wheels, comprising:

a force sensor for detecting input of force from a wheel to a vehicle body;

initialize mode memory means in which a lateral force ~~between the wheel and~~from all wheels to the vehicle body is measured, by using the force sensor for detecting input of the force from ~~the~~ each wheel to the vehicle body, when the vehicle, which is set to an optimum alignment state, is run on a substantially flat road surface as reference under a predetermined condition and a deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored;

monitor mode memory means in which the lateral force is measured, by using the force sensor, when the vehicle, which has run a predetermined distance or for a predetermined time from a time measuring the lateral force by the initialize mode memory means, ~~thereafter~~ is run on the substantially flat road surface and a deviation of fluctuation or fluctuation rate of the lateral force with respect to the optimum alignment state is measured, and stored;

analyzing computation means in which a change of the alignment state of the vehicle is analyzed on the basis of a ratio of the deviation stored in the monitor mode memory means and the deviation stored in the initialize mode memory means; and

information output means for outputting at least one of information stored in the initialize mode memory means, information stored in the monitor mode memory means, and a result of the analysis obtained by the analyzing computation means; and

a vehicle testing apparatus having the substantially flat road surface for running which causes the wheels to be rotated, detecting the state of the vehicle from outside, and being capable of storing the state of the vehicle detected from the outside and the state of the vehicle analyzed by the vehicle state analyzing system.